



Moo-ving On Up: Critter Pads Keep Farm Animals Safe From Floods

Full Mitigation Best Practice Story

King County, Washington

The State of Washington - When a community is affected by flooding, the people who live there have their lives turned upside-down. Forced to abandon their homes in order to escape rising floodwaters, they must go through the lengthy and exhausting process of cleanup, repair, and rebuilding. As difficult as it can be, however, recovery is possible. The challenges are even more difficult and complicated when a flood impacts a farm community. Not only must residents get themselves out of harm's way, but they also must protect their livestock, secure farm equipment and supplies, and deal with many other issues.



Jason Roetcisoender's family has owned their 120-acre farm in Duvall, Washington since the 1920s. Throughout that time, there have been numerous floods that have impacted their home and property. In a flood in 1975, while the farm was run by Jason's father, they lost 32 cows. In Duvall's flood-of-record in 1990, the family lost 120 animals to high water.

"After the flood in 1990, Washington State and King County approved emergency permitting for the installation of critter pads," said Mr. Roetcisoender. "The local farmers, including my father, went to them to try to find a solution to the flooding, and that was one of the remedies they came up with."

A critter pad, or livestock flood sanctuary mound, is an area where approved fill material is used to raise the ground above the Base Flood Elevation (BFE). When flooding occurs, farmers move their livestock onto the pads to keep the animals out of the water's reach. Critter pads require special permitting and must be specifically designed to ensure they have a negligible impact on the floodplain. They also may not be built within the boundaries of a river's floodway.

Since the Roetcisoenders completed their critter pad in 1991, they have had to use it on three occasions, including the November flood of 2006. In that November 2006 incident, Mr. Roetcisoender was able to move over 300 head of cattle onto the pad and keep them safe. They also filled two of the family's trucks with feed and drove them up onto the pad to be safe and easily accessible.

"Our goal during this time is to keep them alive, keep them fed, and hope the water goes down fast," said Mr. Roetcisoender. "If we didn't have the pad, I wouldn't want to farm here. After the 1990 flood, my Dad was ready to give it all up. When they said we could build the pad, it made all the difference. We really like this lifestyle, but it has to be financially feasible. If not for the pad allowing us to keep our animals safe, we just couldn't do it."

In the nearby Town of Carnation, Michelle Blakely has a 33-acre farm where she grows organic vegetables and fruits, and raises chickens, cows, pigs, and turkeys. When they purchased the farm two years ago, a critter pad was already in place, built by the previous owner. According to Mrs. Blakely, the pad was part of the incentive to acquire the land.

Unfortunately, in 2006, when the waters rose during the November flood, despite being above the BFE, it turned out the pad was not high enough. Upon returning to their home following a mandatory evacuation, the Blakelys found that all their chickens and turkeys were gone.

"We lost about 500 birds," said Mrs. Blakely. "The really sad part was that they were set to be sold the following day."

The Blakelys suffered significant financial damage to their farm from the 2006 flood, a good portion of it in poultry losses. Not wanting to go through this again, they decided to raise the critter pad even higher. They purchased permitted fill, rented a bulldozer, and raised the pad almost three feet.

When the floodwaters came again in December of 2007, the Blakelys felt they were ready. Working fast, the Blakelys managed to relocate their birds from coops on different areas of their property to the elevated pad, even as rising waters surrounded them. If the chickens and turkeys had not been moved to the critter pad, they would have been lost. This time, the Blakelys

managed to save almost 1,500 birds from floodwaters.

"I was so relieved," said Mrs. Blakely. "The way the rivers are going right now, you can't always guarantee what's going to happen. You have such little warning. Just knowing the pad was there, that our birds were up higher than they've been before, I could go to sleep that night and not be worried."

Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region X**

State: **Washington**

County: **King County**

City/Community: **Carnation; Duvall**

Key Activity/Project Information

Sector: **Private**

Hazard Type: **Flooding**

Activity/Project Type: **Elevation, Structural**

Activity/Project Start Date: **12/1990**

Activity/Project End Date: **07/1991**

Funding Source: **Homeowner**

Activity/Project Economic Analysis

Cost: **Amount Not Available**

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **Yes**

Federal Disaster #: **883 , 11/26/1990**

Federal Disaster Year: **1990**

Value Tested By Disaster? **Yes**

Tested By Federal Disaster #: **1671 , 12/12/2006; 1734 , 12/08/2007**

Repetitive Loss Property? **Unknown**

Reference URLs

Reference URL 1: <http://www.floodsmart.gov>

Reference URL 2: http://www.fema.gov/plan/prevent/floodplain/nfipkeywords/base_flood_elevation.shtm

Main Points

- Members of the farm community in Washington were losing large amounts of livestock to flooding.
- After a major flood in 1990, Washington State and King County approved emergency permitting for the installation of critter pads.
- Critter pads, a livestock flood sanctuary mound, is an area where approved fill materials raise the ground above the BFE.
- Some members of the farm community had to raise their critter pads after still experiencing losses.
- Since the installation (sometimes raising) of the critter pads, the farm community have overall had substantially less losses due to floods.



Example of a critter pad



Another example of a critter pad